

What is claimed is:

1. A method for transmitting Internet Key Exchange (IKE) data packets across a network comprising the steps of:
 - generating and transmitting an IKE packet over a network;
 - 5 determining whether a response to the IKE packet was received;
 - fragmenting the IKE packet into a plurality of smaller packets when a response is not received, wherein each of the smaller packets includes a header formatted according to the IKE protocol; and
 - 10 transmitting each of the plurality of smaller packets over a network.
2. The method of claim 1 wherein each header includes an identifier that may be used to associate the smaller packet with a corresponding IKE packet.
3. A network node that communicates with other network nodes
 - 15 according to the Internet Key Exchange (IKE) protocol comprising:
 - a User Datagram Protocol (UDP) stack that is capable of generating UDP data packets for transmission over a network;
 - an IKE protocol stack that generates IKE data packets that are subsequently processed by the UDP protocol stack; and
 - 20 a fragmenter module that intercepts IKE data packets prior to being processed by to the UDP protocol stack and splits the IKE data packets into a plurality of smaller data packets that may be subsequently formatted by the UDP protocol stack.

4. A method for fragmenting a data packet comprising the steps of:
generating an IKE data packet;
intercepting the IKE data packet before it is passed to a subsequent network
5 protocol stack;
determining a maximum size for fragments of an IKE data packet;
dividing the IKE data packet into at least two smaller packets; and
prepending a header to each smaller packet, wherein each header for each
smaller packet includes an identifier that associates the smaller packet with its
10 corresponding IKE data packet.

5. The method of claim 4 wherein the dividing step is performed such that
the combined size of each smaller packet and prepended header will not exceed the
maximum size.

15 6. A method for receiving fragmented Internet Key Exchange (IKE) data
packets comprising the steps of:
receiving a plurality of fragments of an IKE data packet from a transmitting
node, wherein each fragment includes an identifier that associates each fragment with
20 an IKE data packet; and
discarding all fragments that contain a first identifier if a predetermined
number of fragments are received that contain a second identifier.

7. The method according to claim 6 wherein the step of discarding all fragments that contain a first identifier is performed when at least one fragment is received that contains a second identifier.

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8. The method according to claim 6 further comprising the steps of:
determining whether all fragments that are associated with an IKE data packet have been received; and

10 sending a no acknowledgment (NAK) message to the transmitting node when
at least one fragment has not been received.

9. The method according to claim 6 further comprising the step of
determining the total size of all fragments that contain the same identifier and
discarding said fragments when the total size exceeds a predetermined limit.

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10. The method according to claim 9 wherein the predetermined limit is 64
kilobytes.

11. A system for transmitting Internet Key Exchange (IKE) protocol data
20 packets across a network comprising:
means for generating an IKE packet;

means for detecting whether the IKE packet was successfully received at the intended receiver node; and

means for fragmenting the IKE packets into smaller packets when the IKE packet was not successfully received at the receiver node, wherein each of the smaller packets includes information that permits a receiver node to identify the IKE packet associated with each smaller packet and the position of each smaller packet within the IKE packet.

12. The system of claim 11 further comprising means for determining the capability of the receiver node for receiving fragmented packets.